



Street-Level Photos with ArcGIS Integration for Municipal Applications

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Where are the street signs?

- **Primary Problem:**

Need to map street signs and identify type

- **Limitations**

- No idea how many signs we have
- Small GIS staff, limited time for field work
- ~ 328 miles of roads... and one GPS unit
 - 72 miles of major roads
 - 256 miles of “neighborhood” roads

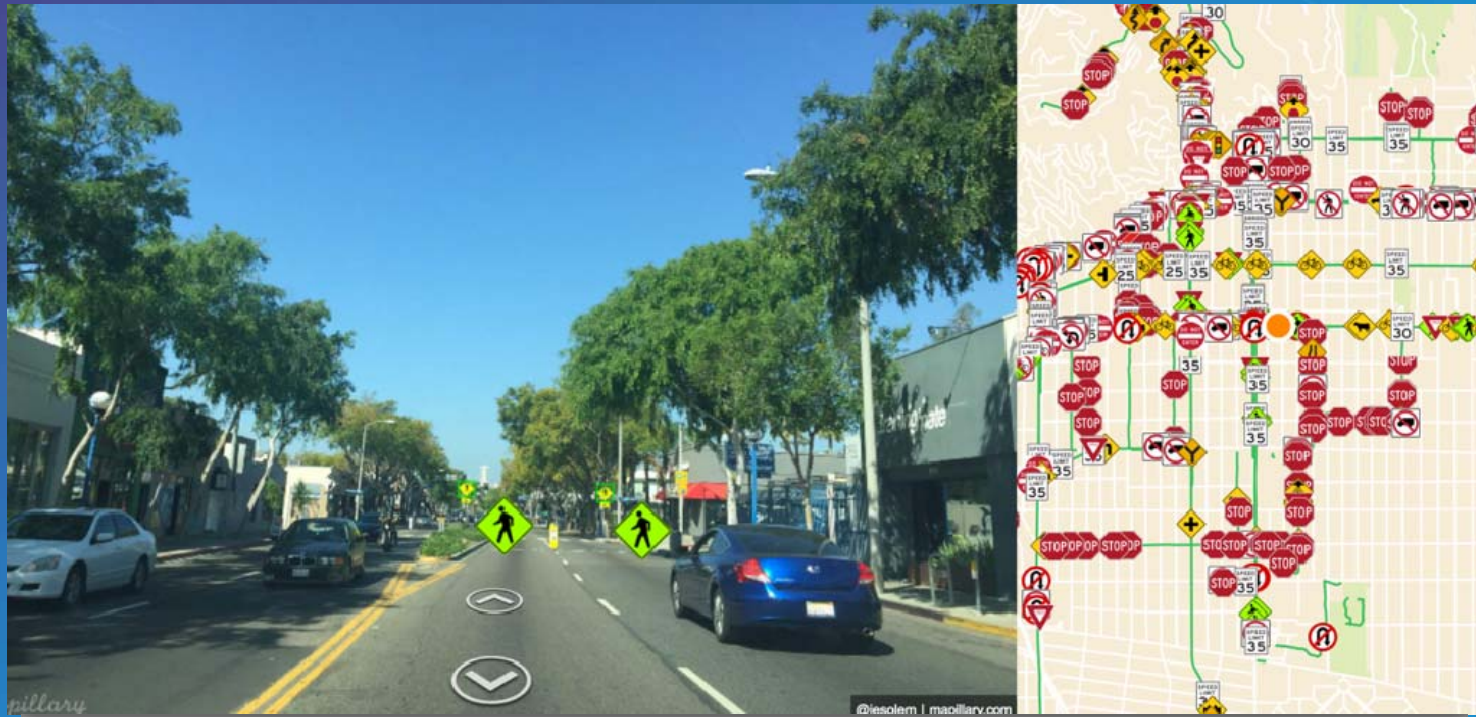


Solution



Capture street imagery using
Mapillary app & iPhone camera
while commuting or on City vehicles during the day

Solution



Mapillary processes the imagery,
Extracts street sign locations,
Delivers an interactive map where you can edit points,
... and finally gives you a shapefile of these points.

Solution **BONUS !**



As an added bonus, we can access these street-level images whenever we need to.

They're updated as often as we want to capture new imagery, unlike Google StreetView

Future Improvements



Deploy 4 Garmin VIRB X cameras on a City vehicle
Capture more imagery, faster, better angles, higher res
Cameras have built-in GPS
Will update/ re-drive all roads annually

**How does this all
work?**

3D Reconstructions

Every place photographed is estimated in 3D to help with positioning



Semantic Segmentation

Each photo is divided in semantic regions and labeled



Automated recognition

Traffic signs and objects are detected and positioned





Thanks!

Find out more:

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mapillary.com